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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,046	11/17/2003	Francis R. Corrado	42P17158	4287

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EXAMINER

CRIBBS, MALCOLM D

ART UNIT

PAPER NUMBER

2115

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/716,046	<b>Applicant(s)</b> CORRADO ET AL.	
	<b>Examiner</b> Malcolm D. Cribbs	<b>Art Unit</b> 2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

**Claims 1-29 are presented for examination.**

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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**Claims 1-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art [AAPA] in view of Nakamura [US Patent No. 6,681,334] in further view of Islam et al [US Patent No. 6,058,455].

**As per claims 1, and 2**, AAPA teaches the invention comprising:

20

a device having a relatively lower power consumption rate while the device is operating in a one mode of operation compared to a relatively higher power consumption rate while the device is operating in another mode of operation [Page 1 [0002]].

25

AAPA does not teach the method of storing data indicating a change during a suspend mode. Specifically, AAPA teach the method of transitioning to a suspend mode, where an unrecognized change in configuration is possible, and writing or

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reading data to a changed configuration that would cause an error. However, AAPA fails to detail the method of storing data indicating a change during the suspend mode. A routineer in the art would have been motivated to look for a teaching for the possible method of detecting a change while the device operating in a suspend mode.

5

Nakamura teaches another method of transitioning from a suspend mode to a resume mode in order to reduce power consumption. Nakamura teaches a method of storing data indicating, when the device resumes, that a change has been made during the suspend mode [Col 2 lines 53-63; Col 3 lines 8-11; and Col 9 lines 2-30]. In

10 summary, Nakamura teaches a method of storing data indicative of changes while the device is in a suspend mode.

It would have been obvious to one of ordinary skill in the art to combine the teachings of AAPA and Nakamura, which are analogous art, because they both teach a  
15 method of switching between a suspend mode and a resume mode for the purpose of power consumption. Nakamura covers the deficiency of AAPA by teaching the detail of storing data indicating a change while the device is in a suspend mode.

AAPA and Nakamura do not disclose the change indication method being used  
20 with a Redundant Array of Inexpensive Disks [RAID] system.

Islam teaches a system of recording changes made to a RAID system [Col. 4 line 49 – Col. 5 line 35]. Islam has the addition feature of checking for proper RAID configuration synchronization at power on, warns the user of configuration errors, and provides numerous options for the user to correct the errors [Col. 4, lines 42-46].

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It would have been obvious to one of ordinary skill of the art having the teachings of AAPA, Nakamura, and Islam at the time the invention was made, to modify the method of indicating a change of AAPA and Nakamura to indicate changes of a RAID system as taught by Islam. One of ordinary skill in the art would be motivated to make this combination of changes being indicated in a RAID system in view of the teachings of Islam, as doing so would give the added benefit of checking for proper RAID configuration synchronization at power on, warns the user of configuration errors, and provides numerous options for the user to correct the errors [as taught by Islam above].

10  
15       **As per claim 3**, it would have been obvious to one of ordinary skill in the storage device art wherein the data comprises metadata.

**As per claim 4**, AAPA teaches the claimed invention of preventing execution of pending operations [Page 1 [0002]].

20

**As per claim 5**, Nakamura teaches the claimed invention of the change is at least one of a volume change and a storage device change [Col 2 lines 53-63].

**As per claim 6**, Nakamura teaches the invention of a suspend mode and a resume mode [Col 2 lines 36-44].

5       **As per claim 7**, AAPA teaches the invention of preventing the operations of processes, and thereafter resuming the processes when the device returns to normal power consumption mode. It would have been obvious to one of ordinary skill in the art wherein in order to resume where the processes had been halted, the status of the process must be stored before entering the suspend mode.

10       **As per claim 8**, AAPA teaches the claimed invention including a redundant array of inexpensive disks, a processor, and a driver [Page 1 [0002]].

15       **As per claims 9-16**, it is directed to an apparatus to implement the method of steps as set forth in claims 1-8. Therefore, it is rejected for the same basis as set forth hereinabove.

20       **As per claims 17-24**, it is directed to an article to implement the method of steps as set forth in claims 1-8. Therefore, it is rejected for the same basis as set forth hereinabove.

**As per claims 25-29**, it is directed to a system to implement the method of steps as set forth in claims 1-8. Therefore, it is rejected for the same basis as set forth hereinabove.

5

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within  
10 **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later  
15 than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Malcolm D. Cribbs whose telephone number is 571-272-5689. The examiner can normally be reached on M-F 8AM-430PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's  
20 supervisor, Thomas Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

- 5 For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10

Malcolm D Cribbs  
Examiner  
Art Unit 2115

December 8, 2006

